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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/091,950	03/04/2002	Joseph O. Norris	T9468.NP	7889
20551	7590	06/02/2006	EXAMINER	
THORPE NORTH & WESTERN, LLP. 8180 SOUTH 700 EAST, SUITE 200 SANDY, UT 84070			GRIER, LAURA A	
			ART UNIT	PAPER NUMBER
			2615	

DATE MAILED: 06/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/091,950

Applicant(s)

NORRIS ET AL.

Examiner

Laura A. Grier

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-51 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 17-27, 29-32 and 38-51 is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4, 6-8, 10-14, 28 and 33-37 is/are rejected.
- 7) ☒ Claim(s) 3, 5, 9, 15-16 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

The indicated allowability of claim 8 and 11 is withdrawn in view of the newly discovered reference(s) to Ngai, U. S. Patent No. 5619383. Rejections based on the newly cited reference(s) follow.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 8 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Ngai.

Regarding claim 8, respectively, Nagi (col. 4, lines 32-56, col. 5, lines 22-28, and figure 1) discloses a modulator, and a mixer, a carrier frequency generator (ultrasonic signal carrier) coupled to the modulator and audio data input, which functionally combined creates a combined modulated signal, which can be written and/or read from a magnetic tape (an electronically readable storage medium), which reads modulating, producing and storing, therein as claimed.

Regarding claim 11, respectively, Nagi (col. 4, lines 32-56, col. 5, lines 22-28, and figure 1) discloses a magnetic tape, which reads on an electronically readable storage medium, a carrier frequency generator which is modulated with a data signal and an audio signal via a modulator and a mixer, which reads on an ultrasonic carrier signal, therein.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-2, 4, 6-7 and 28 rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admitted prior art (AAPA) in view of Ngai.

Regarding claims 1-2, 4, 6, 28, AAPA discloses producing an ultrasonic carrier signal by amplifying and outputting it through an ultrasonic transducer (Background of Invention). However, AAPA fails to disclose retrieving the ultrasonic carrier signal representative of a pre-encoded audio signals retrieved from an electronically readable storage.

Regarding retrieving the ultrasonic carrier signal representative of a pre-encoded audio signals retrieved from an electronically readable storage, Nagi discloses retrieving an composite modulated signals from a magnetic tape (col. 4, lines 32-56, col. 5, lines 22-28, and figure 1).

It is well known that audio signals consist some type of encoding prior to playback, thus, it would have been obvious to one of ordinary skill at the time of the invention as the time the invention was made to modify the invention of AAPA by implementing retrieving the ultrasonic carrier signal representative of a pre-encoded audio signals retrieved from an electronically readable storage for the purpose of enhancing audio signal processing technique for the production of ultrasonic sounds.

Regarding claim 7, AAPA and Ngai (AAPA) discloses producing an ultrasonic carrier signal by amplifying and outputting it through an ultrasonic transducer (Background of Invention). With high directionality being an optimal feature of ultrasonic transducers or speakers system (parametric), it obvious that the output of the parametric speaker system is limited to a particular listening area.

Claims 33-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admitted prior art (AAPA) in view of Ngai.

Regarding claims 33-36, AAPA discloses producing an ultrasonic carrier signal by amplifying and outputting it through an ultrasonic transducer (Background of Invention). With high directionality being an optimal feature of ultrasonic transducers or speakers system (parametric), it obvious that the output of the parametric speaker system is limited to a particular listening area or areas as desired . However, AAPA fails to disclose retrieving the ultrasonic carrier signal representative of a pre-encoded audio signal retrieved from an electronically readable storage.

Regarding retrieving the ultrasonic carrier signal representative of a pre-encoded audio signal retrieved from an electronically readable storage, Nagi discloses retrieving an composite modulated signals from a magnetic tape (col. 4, lines 32-56, col. 5, lines 22-28, and figure 1).

It is well known that audio signals consist some type of encoding prior to playback, thus, it would have been obvious to one of ordinary skill at the time of the invention as the time the invention was made to modify the invention of AAPA by implementing retrieving the ultrasonic carrier signal representative of a pre-encoded audio signals retrieved from an electronically readable storage for the purpose of enhancing audio signal processing technique for the production of ultrasonic sounds.

Claims 37 is rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admitted prior art (AAPA) and Ngai, in further view of Hirayanagi, U. S. Patent No. 6445804.

Regarding claim 37, AAPA discloses producing an ultrasonic carrier signal by amplifying and outputting it through an ultrasonic transducer (Background of Invention). With high directionality being an optimal feature of ultrasonic transducers or speakers system (parametric), it obvious that the output of the parametric speaker system is limited to a particular listening area. However, AAPA fails to disclose retrieving the ultrasonic carrier signal representative of a pre-encoded audio signals retrieved from an electronically readable storage.

Regarding retrieving the ultrasonic carrier signal representative of a pre-encoded audio signals retrieved from an electronically readable storage, Nagi discloses retrieving

an composite modulated signals from a magnetic tape (col. 4, lines 32-56, col. 5, lines 22-28, and figure 1).

It is well known that audio signals consist some type of encoding prior to playback, thus, it would have been obvious to one of ordinary skill at the time of the invention as the time the invention was made to modify the invention of AAPA by implementing retrieving the ultrasonic carrier signal representative of a pre-encoded audio signals retrieved from an electronically readable storage for the purpose of enhancing audio signal processing technique for the production of ultrasonic sounds.

Further, AAPA and Ngai fail to disclose the parametric output directed to a sound reflective surface to produce a virtual speaker source. In a similar field of endeavor, Hirayanagi discloses directing the output of ultradirectional speaker system (parametric) to an acoustic reflector to establish a virtual sound source (abstract, figures 1 and 8 – col. 5, lines 44-co. 6, lines 1-3).

Thus, it would have been obvious to one of the ordinary skill in the art at the time the invention was made to modify the invention of AAPA and Ngai by implement a sound reflective surface (acoustic reflector) for the purpose of creating a virtual sound source for a listener.

Claims 10, 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ngai in view of Hirayanagi.

Regarding claim 10, Ngai discloses everything claimed as applied above (see claim 8). However, Ngai fails to disclose the processing signal being playback through an ultrasonic amplifier and emitter. It is well known that audio signals consist some type

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of encoding and/or processing prior to playback via stored on a recording medium as taught by Hirayanagi (abstract, figures 1 and 8 – col. 5, lines 44-co. 6, lines 1-3), which discloses playback of a prerecord speech (col. 7, lines 10-11) . Thus, it would have been obvious to one of ordinary skill at the time of the invention was made to modify the invention by a amplifier and speaker system disclose as disclosed by Hirayanagi for the purpose of enhancing audio signal processing technique for the production of ultrasonic sounds.

Regarding claims 12-14, Ngai discloses everything claimed as applied above (see claim 8). Ngai obviously disclose the readable medium comprising ultrasonic bandwidth as evident of the magnetic tape being able to write or record the composite modulated signal. However, Ngai fails to disclose the processing signal being playback through an ultrasonic amplifier and emitter. It is well known that audio signals consist some type of encoding and/or processing prior to playback via stored on a recording medium as taught by Hirayanagi (abstract, figures 1 and 8 – col. 5, lines 44-co. 6, lines 1-3), which discloses playback of a prerecord speech via an amplifier and speaker (ultradirectional) - (col. 7, lines 10-11). Thus, it would have been obvious to one of ordinary skill at the time of the invention was made to modify the invention by a amplifier and speaker system disclose as disclosed by Hirayanagi for the purpose of enhancing audio signal processing technique for the production of ultrasonic sounds



***Allowable Subject Matter***

Claims 3, 5, 9, 15-16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 17-27, 29-32, 38-51 are allowed.

***Response to Arguments***

Applicant's arguments with respect to claims 1-16, 28 33-37 have been considered but are moot in view of the new ground(s) of rejection.

The amended changes by the applicant have been considered by the examiner. Upon further search and consideration, a prior art rejection has been provided.

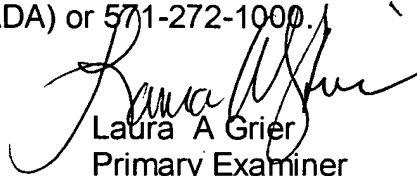
***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura A. Grier whose telephone number is (571) 272-7518. The examiner can normally be reached on Monday - Friday, 7:30 am - 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin can be reached on (571) 272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Laura A Grier  
Primary Examiner  
Art Unit 2615

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